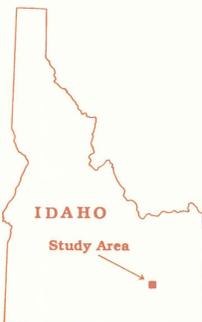
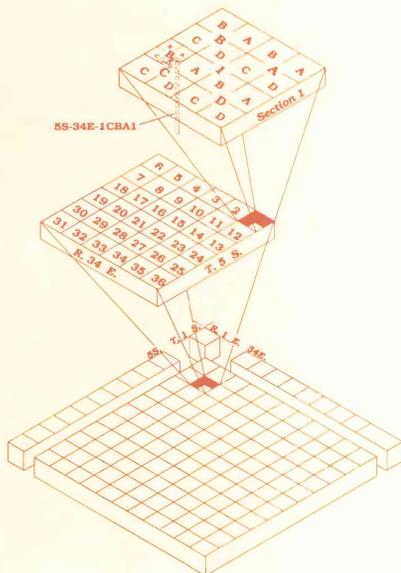


WELL-NUMBERING SYSTEM

The well-numbering system used by the U.S. Geological Survey in Idaho indicates the location of wells within the official rectangular subdivision of public land, with reference to the Boise base line and Meridian. The first two segments of the number designate the township (north or south) and range (east or west). The third segment gives the section number; four letters, which indicate the 1/4 section (160-acre tract), 1/4-1/4 section (40-acre tract), 1/4-1/4-1/4 section (10-acre tract), and 1/4-1/4-1/4-1/4 section (2 1/2-acre tract); and serial number of the well within the tract.

Quarter sections are designated by the letters A, B, C, and D in counterclockwise order from the northeast quarter of each section. Forty-acre, 10-acre, and 2 1/2-acre tracts within each quarter section are lettered in the same manner. Well 5S-34E-1CBDA1 (example at left) is in the NE 1/4 SE 1/4 NW 1/4 SW 1/4 sec. 1, T. 5 S., R. 34 E., and was the first well inventoried in that tract.



INDEX MAP OF IDAHO

The purpose of this study was to determine concentrations of nitrogen compounds in ground water in part of the Fort Hall Indian Reservation. The study area included that part of the reservation west of the Fort Hall Main Canal and north of Pocatello. The scope of the study was limited to inventorying 60 wells and making onsite determinations of depth to water, specific conductance, pH, water temperature, and concentrations of total alkalinity, dissolved chloride, and dissolved nitrite plus nitrate (as nitrogen). When onsite nitrite plus nitrate concentrations exceeded about 6 mg/L nitrogen, ground-water samples were collected for nitrite plus nitrate (as nitrogen) and ammonia plus organic nitrogen (as nitrogen) analyses at the U.S. Geological Survey National Water Quality Laboratory. In addition, water samples from 19 wells were cultured for fecal coliform and fecal streptococci bacteria.

Locations of wells and concentrations of nitrite plus nitrate (as nitrogen) are shown on the map at bottom left. Water-quality and selected well-inventory data for 60 wells sampled during July 1988 are shown in the table at right. A statistical summary of selected water-quality data is shown in the table at bottom right, and onsite versus laboratory measurements of nitrite plus nitrate (as nitrogen) concentrations are shown in the graph below.

CONVERSION FACTORS

For readers who prefer to use metric units, conversion factors for inch-pound units used in this report are listed below. Constituent concentrations are given in mg/L (milligrams per liter), which is equal to parts per million. Specific conductance is expressed as $\mu\text{S}/\text{cm}$ (microsiemens per centimeter at 25 degrees Celsius). Bacteria are reported as cols. per 100 mL (colonies per 100 milliliters).

Multiply	By	To obtain
acre	4.047	square meter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer

Temperature in $^{\circ}\text{C}$ (degrees Celsius) can be converted to $^{\circ}\text{F}$ (degrees Fahrenheit) as follows:

$$^{\circ}\text{F} = (1.8) (^{\circ}\text{C}) + 32$$

All water temperatures are reported to the nearest one-half $^{\circ}\text{C}$.

WATER-QUALITY AND SELECTED WELL-INVENTORY DATA

Ref. number	Well location	Total depth of well (feet)	Date sampled or water level measured	Water level below land surface (feet)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Water temperature ($^{\circ}\text{C}$)	Alkalinity, total (mg/L as CaCO_3)	Chloride, dissolved (mg/L as Cl)	Coliform, fecal, 0.7 UM-MF (cols./100 mL)	Streptococci, fecal, KF agar (cols./100 mL)	Nitrogen, dissolved (mg/L as N)	Nitrogen, dissolved (mg/L as N)	Nitrogen, ammonia + organic (mg/L as N)	Onsite		Laboratory	
															Nitrite + Nitrate (mg/L as N)			
BANNOCK COUNTY																		
1	5S-34E-1CBDA1	220	7-26-88	57.80 R	579	7.3	14.5	253	17	--	--	2.6	--	--	--	--	--	--
2	30CD1	128	7-28-88	46.55	684	7.3	15.0	272	29	<1	<1	1.2	--	--	--	--	--	
3	5AAA1	80	7-27-88	12.18	547	7.3	13.0	217	28	--	--	1.2	--	--	--	--	--	
4	50DD1	63	7-27-88	40.59	540	7.5	12.0	208	23	--	--	2.0	--	--	--	--	--	
5	10DD1	137	7-28-88	49.24	724	7.3	16.0	228	66	--	--	1.7	--	--	--	--	--	
6	15CCD1	70	7-28-88	52.57 R	825	7.3	13.5	287	54	--	--	1.9	--	--	--	--	--	
7	16BBC1	--	7-28-88	28.87	509	7.3	14.5	194	19	--	--	2.5	--	--	--	--	--	
8	18BAC1	--	7-29-88	--	532	7.9	12.0	170	26	--	--	1.0	--	--	--	--	--	
9	20BC1	--	7-29-88	48.19	720	7.3	12.5	258	40	--	--	2.2	--	--	--	--	--	
10	21CCD1	161	7-28-88	62.29 R	614	7.3	15.5	223	35	<1	45	2.2	--	--	--	--	--	
11	22CCC1	120	7-28-88	41.78 R	618	7.2	13.5	280	18	--	--	1.6	--	--	--	--	--	
BINGHAM COUNTY																		
12	3S-34E-34BAA1	90	7-20-88	30.45	410	7.5	11.5	166	16	<1	K7	1.2	--	--	--	--	--	
13	34DDA1	85	7-20-88	32.21	681	7.3	11.5	297	21	<1	<1	4.3	4.6	.4	--	--	--	
14	36ABB1	82	7-20-88	40.67 R	569	7.4	11.5	227	19	--	--	3.9	--	--	--	--	--	
15	36BCC1	75	7-21-88	39.45	645	7.2	12.5	254	19	<1	K7	6.3	7.2	.4	--	--	--	
16	36DDD1	--	7-26-88	43.92	449	7.3	14.5	180	18	--	--	1.6	--	--	--	--	--	
17	38-35E-18CAA1	60	7-20-88	20.13 R	538	7.0	13.5	260	19	--	--	2.5	--	--	--	--	--	
18	15BBB1	80	7-19-88	29.68 R	550	7.2	13.5	203	23	<1	<1	3.7	--	--	--	--	--	
19	15CBA1	150	7-20-88	36.87	508	6.9	13.0	209	19	<1	<1	1.8	1.2	.4	--	--	--	
20	19BAD1	76	7-19-88	24.77 R	592	7.2	13.0	250	20	--	--	2.9	--	--	--	--	--	
21	20CBA1	67	7-19-88	--	605	7.1	13.5	250	21	--	--	3.7	--	--	--	--	--	
22	30BCD1	60	7-26-88	38.70	538	7.5	14.0	226	18	--	--	2.8	--	--	--	--	--	
23	32CBB1	100	7-20-88	47.06 R	509	7.3	14.5	210	20	<1	<1	2.3	--	--	--	--	--	
24	4S-34E-10DD1	94	7-22-88	41.05	556	7.4	13.5	236	18	--	--	3.3	--	--	--	--	--	
25	2ADA1	100	7-26-88	38.68	586	7.4	12.0	266	15	--	--	1.9	--	--	--	--	--	
26	30BBC1	--	7-21-88	29.15	513	7.3	13.0	223	17	--	--	1.7	--	--	--	--	--	
27	30DD1	121	7-20-88	33.95	744	7.2	11.5	297	21	<1	<1	7.8	9.4	.6	--	--	--	
28	98AB1	--	7-21-88	23.88 P	431	7.3	10.5	167	17	--	--	1.3	--	--	--	--	--	
29	11AAD1	--	7-26-88	41.22	428	7.6	13.0	174	15	--	--	1.2	--	--	--	--	--	
30	11CAD1	--	7-21-88	--	673	7.0	13.5	252	22	<1	<1	7.4	8.7	1.2	--	--	--	
31	12DCB1	270	7-21-88	--	545	7.3	13.5	218	20	--	--	3.3	--	--	--	--	--	
32	13CAC1	340	7-21-88	--	680	7.2	12.0	187	28	<1	<1	13.0	18.0	.9	--	--	--	
33	15CDD1	94	7-19-88	32.35 P	578	7.6	12.5	205	18	<1	<1	8.4	10.0	.9	--	--	--	
34	16BBB1	83	7-20-88	30.90 P	587	7.3	11.5	259	21	--	--	2.9	--	--	--	--	--	
35	16BCC1	--	7-26-88	28.37	874	7.3	11.5	280	48	<1	<1	10.0	16.0	.4	--	--	--	
36	19DAC1	--	7-26-88	27.60 R	505	7.6	12.0	191	20	--	--	1.7	--	--	--	--	--	
37	21CBB1	--	7-27-88	20.85 P	810	7.4	13.0	204	42	<1	<1	16.0	22.0	<2	--	--	--	
38	23BAC1	320	7-27-88	--	556	7.6	12.5	190	18	<1	<1	7.7	11.0	<2	--	--	--	
39	23CAC1	330	7-26-88	--	557	7.5	13.5	190	23	--	--	5.9	7.7	<2	--	--	--	
40	24ABD1	270	7-26-88	--	601	7.3	13.5	173	31	--	--	8.0	9.0	.2	--	--	--	
41	24BBC1	300	7-21-88	--	563	7.3	13.5	180	28	--	--	8.8	8.8	.5	--	--	--	
42	25CBB1	80	7-28-88	24.78 R	731	7.5	13.0	208	28	<1	<1	19.0	24.0	.4	--	--	--	
43	26CCB1	101	7-25-88	--	566	7.5	13.5	174	27	--	--	7.5	11.0	.3	--	--	--	
44	27CCAA1	273	7-26-88	--	563	7.5	12.5	220	18	--	--	4.2	--	--	--	--	--	
45	28CAC1	300	7-27-88	--	580	7.5	12.5	230	19	--	--	4.4	--	--	--	--	--	
46	30CCC1	120	7-19-88	10.54 R	532	8.0	11.0	192	35	<1	<1	1.7	--	--	--	--	--	
47	32DCA1	250	7-25-88	--	552	7.4	11.5	210	22	--	--	3.3	--	--	--	--	--	
48	33AAD1	--	7-27-88	--	802	7.3	12.5	247	32	<1	<1	13.0	18.0	.5	--	--	--	
49	34ABB1	287	7-26-88	--	548	7.5	12.5	196	20	--	--	4.7	--	--	--	--	--	
50	36AAA1	--	7-23-88	46.97	592	7.3	15.0	260	14	--	--	1.0	--	--	--	--	--	
51	4S-35E-7CCB1	535	7-25-88	--	547	7.4	13.5	209	23	--	--	4.3	4.4	.2	--	--	--	
52	17CCB1	--	7-27-88	--	465	7.8	15.0	258	20	--	--	5.4	4.7	.4	--	--	--	
53	18CDA1	265	7-25-88	--	548	7.4	13.5	192	26	--	--	5.2	6.3	<2	--	--	--	
54	18BAC1	--	7-27-88	31.83 R	624	7.6	13.5	182	27	K70	25	11.0	13.0	.2	--	--	--	
55	19DDA1	--	7-27-88	--	758	7.7	12.0	190	40	--	--	12.0	17.0	.4	--	--	--	
56	20BCB1	210	7-22-88	--	493	7.5	12.5	183	34	--	--	11.0	15.0	<2	--	--	--	
57	290CA1	--	7-27-88	90.02	492	7.4	16.5	160	40	--	--	9.9	--	--	--	--	--	
58	30DDC1	--	7-27-88	--	508	7.4	14.5	217	15	--	--	1.4	--	--	--	--	--	
59	31CBB1	125	7-28-88	51.55 R	554	7.5	15.0	230	23	--	--	1.4	--	--	--	--	--	
60	32CCB1	--	7-28-88	79.60	572	7.5	16.0	243	19	--	--	1.4	--	--	--	--	--	

Notations: --, no data available; <, less than; K, nonideal colony count; R, recently pumped; P, pumping; T, nearby, recently pumped.

STATISTICAL SUMMARY OF SELECTED WATER-QUALITY DATA

[*, onsite analysis; **, laboratory analysis; ***, mandatory maximum contaminant limits for public water supplies vary with sample method and frequency (1); <, less than; \geq , greater than or equal to]

Water-quality constituent	Number of samples	Median (50 percent)	Mean	Range		Number of samples with concentrations exceeding national drinking-water limits
				Minimum	Maximum	
*Specific conductance ($\mu\text{S}/\text{cm}$)	60	568	593	410	874	
*pH (standard units)	60	7.4	7.4	6.9	8.0	
*Temperature ($^{\circ}\text{C}$)	60	13.0	13.0	10.5	16.5	
*Alkalinity, total (mg/L as CaCO_3)	60	217	218	160	297	
*Chloride, dissolved (mg/L as Cl)	60	21	25	14	66	